



NASA Policy Directive

NPD 2570.5DEffective Date: October 17, 2005
Expiration Date: October 17, 2010**COMPLIANCE IS MANDATORY**[Printable Format \(PDF\)](#)

Subject: NASA Electromagnetic (EM) Spectrum Management

Responsible Office: Space Operations Mission Directorate

1. POLICY

This NPD sets forth the authorities, NASA policies, and responsibilities for obtaining EM spectrum support for all NASA activities requiring the use of EM radiating or receiving devices.

- a. It is NASA policy, in accordance with national policy (Office of Management and Budget (OMB) Circular A-11), that cost estimates for the development or procurement of major communications-electronics systems (including systems which may have a major impact on existing or future use of the portion of the radio frequency spectrum and radio-based communications systems, active or passive remote-sensing systems, all systems employing satellite (space) techniques, and any associated Earth-station sites and facilities) will be submitted to OMB after certification by the National Telecommunications and Information Administration (NTIA) that the space in the EM spectrum required for each system is available. Consequently, it is Agency policy not to obligate funds for formal engineering (as determined by the Center Director), development and testing, or procurement of operational EM radiating or receiving devices until the available spectrum support is certified by the Office of Space Operations (OSO) to the appropriate program office and Center Spectrum Manager. Exceptions to this policy are conceptual studies, laboratory research activities, and components within existing spectrum allocations.
- b. Provisions of appropriate national and international authorities (see section 3) will be used as the basis for implementation of technical and administrative management details associated with the NASA Spectrum Management Program.
- c. Conservation of the EM spectrum will be practiced to the maximum extent possible, consistent with competent design practices.
- d. NASA programs shall, as a first resort, use frequency bands that are currently allocated for the intended use. Where existing allocations are inadequate to achieve program objectives, OSO will initiate action to seek adequate additional allocations.
- e. Where appropriate, it is NASA policy to advocate change to the existing frequency allocations to enable new science and applications activities, including cases in which commercial users will own and operate the system(s).
- f. All orbiting spacecraft will be equipped to ensure the ability to

control EM emissions on and off by remote command unless there is a human presence with the direct capability to control those emissions on or off. If the system has the automatic capability to control transmissions, the requirement may receive a waiver if requested and justified.

- g. Frequency assignments for NASA space missions will not be made for devices which would transmit in exclusive passive radio frequency bands allocated, either nationally or internationally, to the radio astronomy service, the Earth exploration-satellite service (passive), or the space research service (passive).

2. APPLICABILITY

This Directive applies to NASA Headquarters and NASA Centers, including Component Facilities, and to the Jet Propulsion Laboratory (JPL) and other contractors to the extent specified in their contracts.

3. AUTHORITY

- a. 47 U.S.C. § 901, Chapter 8, Telecommunications Act of 1996: "Spectrum Management."
- b. 47 U.S.C. 701 of the Communications Satellite Act of 1962, as amended.
- c. 47 U.S.C. 151 of the Federal Communications Act of 1934, as amended.
- d. 47 U.S.C. 305, note Executive Order 12046, Transfer of Telecommunications Functions, March 27, 1978.
- e. 47 CFR Part 25-148, Regulations of the Federal Communications Commission, Direct Broadcast Satellite Service.
- f. 47 CFR Part 300, Manual of Regulations and Procedures for Federal Radio Frequency Management.
- g. OMB Circular No. A-11, Sections 33.4 and 33.5.
- h. NASA FAR Supplement, 48 CFR Subpart 1823.71 and Clause 1852.223-71, Frequency Authorization.

4. REFERENCES

- a. NPD 1000.3, The NASA Organization.
- b. NPD 1050.1, Authority to Enter into Space Act Agreements.
- c. NPR 1600.1, NASA Security Program Procedural Requirements.
- d. NPR 2570.1, NASA Radio Frequency (RF) Spectrum Management Manual.
- e. NASA/ESA Frequency Coordination Manual, March 13, 2003.
- f. NASA/NASDA Frequency Coordination Manual, January 10, 1983.
- g. International Radio Regulations, International Telecommunication Union (ITU), published in Geneva, Switzerland (2003 World Radiocommunication Conference).

5. RESPONSIBILITY

- a. The Associate Administrator for Space Operations is designated the

NASA Spectrum Manager and is responsible for the following:

1. Publishing the NASA Procedural Requirements (NPR) 2570.1, NASA RF Spectrum Management Manual.
 2. Ensuring that all NASA activities comply with national and international rules and regulations applicable to the use of the EM spectrum as stated in the NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management and the ITU Radio Regulations.
 3. Ensuring adequate NASA representation in international and national organizations and forums concerned with EM spectrum regulation and utilization.
 4. Obtaining and allotting adequate EM spectrum to support all Agency programs, including NASA-sponsored commercial space programs in accordance with NPD 1050.1.
 5. Creating and maintaining the Headquarters Spectrum Management Forum (HSMF) for the consideration of spectrum requirements from other program offices. The HSMF should meet periodically to consider the requirements at intervals of not more than ninety (90) days.
 6. Appointing a Space Operations Spectrum Liaison who will coordinate the Space Operations programs for the International Space Station and Space Shuttle as well as for future operational human space flight missions. In addition, the liaison will coordinate the communications requirements of the Ground and Space Networks, for all missions, and present them to the HSMF as the Space Operations program interface to that forum.
- b. The Associate Administrator for Exploration Systems shall appoint an Exploration Spectrum Liaison who will coordinate the Exploration program's communications requirements, for both robotic and human space flight missions, and present them to the HSMF as the Exploration program interface to that forum.
 - c. The Associate Administrator for Science shall appoint a Science Spectrum Liaison who will coordinate the Science program's remote-sensing (both active and passive) requirements and communications requirements and present them to the HSMF as the Science program interface to that forum.
 - d. The Associate Administrator for Aeronautics Research shall appoint an Aeronautics Spectrum Liaison who will coordinate the Aeronautics program's radio navigation, remote control, telemetry, and communications requirements and present them to the HSMF as the Aeronautics program interface to that forum.
 - e. The Assistant Administrator for External Relations shall appoint an External Relations Spectrum Liaison who will initiate formal bilateral agreements governing the use of EM spectrum resources with entities outside the United States (U.S.) and its possessions in accordance with NPD 1050.1 and other U.S. laws and regulations as applicable, and consulting with the U.S. Department of State as appropriate. The External Relations Spectrum Liaison shall be an ex officio member of the HSMF.
 - f. The Assistant Administrator for Legislative Affairs shall appoint a Legislative Affairs Spectrum Liaison who will initiate any contacts concerning the use of EM spectrum resources with entities of the U.S. Congress, its committees, subgroups, or staff. The Legislative Affairs Spectrum Liaison shall be an ex officio member of the HSMF.

- g. The Office of the General Counsel shall appoint a General Counsel Spectrum Liaison who will be responsible for advising the Associate Administrator for Space Operations concerning the legal aspects of EM spectrum regulation. The General Counsel Spectrum Liaison shall be an ex officio member of the HSMF.
- h. Officials-in-Charge of relevant Headquarters Offices are responsible for ensuring that long-range Agency communications and remote-sensing spectrum requirements are coordinated with the Associate Administrator for Space Operations as early as possible in the program planning phase to permit identification of appropriate EM spectrum allocations in support of program needs. In the absence of adequate allocations, the HSMF will determine appropriate actions to be taken to secure new or alternative allocations.
- i. Each Center Director and the JPL Director is responsible for the following:
 - 1. Assuring the EM integrity of the property on which the Center and its Component Facilities are located including protecting the property from EM interference.
 - 2. Implementing the policies, applicable procedures, and spectrum management functions at the Center and Component Facilities in accordance with this NPD.
- j. The Assistant Associate Administrator for Space Communications is responsible for the overall planning, policy, and administration of the NASA Spectrum Management Program.
- k. Execution
 - a. The Assistant Associate Administrator for Space Communications shall appoint an Agency Spectrum Policy and Planning Director who will serve as the NASA representative to the Interdepartment Radio Advisory Committee (IRAC) and will be responsible for the Agency's programmatic implementation of policies and applicable procedures authorized by this NPD and the overall efficacy of the program. The Spectrum Policy and Planning Director shall designate an Assistant Director to act in his absence and assist him in his normal duties as required and, also, an International Program Executive and a National Program Executive to fulfill the Agency's spectrum management responsibilities in accordance with this NPD.
 - 1. The International Program Executive shall carry out the international responsibilities assigned to the Associate Administrator for Space Operations, which are the EM spectrum activities involving entities external to the U.S., including the ITU, other non-NASA civilian space agencies (e.g., ESA, JAXA et al), the Space Frequency Coordination Group, and other external entities involved in the management of the EM spectrum.
 - 2. The National Program Executive shall carry out the domestic responsibilities assigned to the Associate Administrator for Space Operations, which are the EM spectrum activities involving entities internal to the U.S., including the NTIA, the FCC, and other internal entities involved in the management of the EM spectrum, and ensure that all frequency assignments are carefully reviewed to determine if they should fall under the Administratively Controlled Information Category in accordance with NPR 1600.1 and the desires of the responsible program offices. The National Program Executive shall also ensure that the Spectrum Operational Plan, 5-year Plan, and Long-Range Plan are reviewed and updated annually if necessary and cooperate in

assisting the NTIA in their Federal Spectrum Strategic Plan effort. He or she shall also identify any programs at risk due to possible lack of spectrum allocation or nonsustainability because of commercial encroachment due to possible electromagnetic interference (EMI) conflicts.

I. Each Center Director and the JPL Director shall:

1. Designate a qualified Center Spectrum Manager to perform the spectrum management function.
2. Designate a qualified alternate Center Spectrum Manager to assist and provide backup to the primary Center Spectrum Manager.
3. Provide the funding required to fulfill the Center's spectrum management responsibilities in accordance with this policy.

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENTS

Compliance with the policies set forth in this instruction shall be measured through the following:

- a. Assurance of zero procurement without appropriate authorization. (Assurance that Agency personnel do not engage in any unauthorized commitments).
- b. Assurance of zero NASA-caused EM interference at NASA Centers and JPL, or in the environment surrounding NASA Centers and JPL.
- c. Assurance of timely and accurate processing of NASA frequency assignment actions.
- d. Annual review of Government frequency assignment actions for their impact on NASA's ability to carry out its missions.
- e. Assurance of timely and accurate processing of NASA systems reviews through the IRAC Spectrum Planning Subcommittee.
- f. Review of non-NASA Government systems reviews by the IRAC Spectrum Planning Subcommittee for their impact on NASA's ability to carry out its missions.
- g. Assurance of timely and accurate processing of international registration for NASA systems through the IRAC Space Systems Subcommittee.
- h. Review of non-NASA international systems by the IRAC Space Systems Subcommittee for their impact on NASA's ability to carry out its missions.
- i. Ensure that all radio frequency assignments are reviewed to determine if they should be exempt from the Freedom of Information Act due to their sensitivity and so marked if necessary.

8. CANCELLATION

NPD 2570.5C, dated July 02, 2003.

/s/ Frederick D. Gregory
Acting Administrator

ATTACHMENT A: (TEXT)

None.

(URL for Graphic)

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